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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,730	02/02/2006	Yasuyuki Tanaka	1691-0213PUS1	2171
2292 7590 09/19/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER SCOTT, ANGELA C	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 09/19/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,730	<b>Applicant(s)</b> TANAKA ET AL.	
	<b>Examiner</b> Angela C. Scott	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cornish (US 5,580,942) in view of Hamada et al. (JP 2001-122906) as evidenced by Cornish et al. (Enc. Poly. Sci. and Tech., 2004, John Wiley and Sons). For convenience, the citations below are from the English translation of the Japanese reference.

Regarding claim 1, Cornish recites a low allergic natural rubber which is substantially free of any hypoallergenic proteins (i.e. it dose not contain proteins corresponding to the bands of 14, 31, and 45 kDa which are known to cause Type I allergies) (Col. 4, lines 45-64 and Figure 8). Cornish et al. teaches the Guayle and Ficus rubbers used in Cornish have proteins between 6.6 kDa and 200 kDa (Figure 8).

Cornish does not teach a deproteinized natural rubber having a nitrogen content of 0.02 to 0.30% by weight of natural rubber. However, Hamada et al. teaches a deproteinized natural rubber with a reduced nitrogen content of less than or equal to 0.1% by weight of the rubber (§13). Cornish and Hamada et al. are analogous art because they are from a similar technical difficulty, namely, making hypoallergenic natural rubbers. At the time of the invention, a person of ordinary skill in the art would have found it obvious to reduce the nitrogen content in a natural rubber to this level, as taught by Hamada et al., in the natural rubber of Cornish, and would have been motivated to do so because having a nitrogen content of less than or equal to 0.1% is good evidence that the rubber will not cause an allergic reaction (§14).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cornish (US 5,580,942) in view of Hamada et al. (JP 2001-122906) as evidenced by Cornish et al. (Enc. Poly. Sci. and Tech., 2004, John Wiley and Sons). For convenience, the citations below are from the English translation of the Japanese reference.

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Regarding claim 7, Cornish recites a low allergic natural rubber which is substantially free of any hypoallergenic proteins (i.e. proteins of the band of 14, 31, and 45 kDa) (Col. 4, lines 45-64). Cornish et al. teaches the Guayle and Ficus rubbers used in Cornish has proteins between 6.6 kDa and 200 kDa (Figure 8).

Cornish does not teach a deproteinized natural rubber having a nitrogen content of 0.02 to 0.30% by weight of natural rubber. However, Hamada et al. teaches a deproteinized natural rubber with a reduced nitrogen content of less than or equal to 0.1% by weight of the rubber (¶13). Cornish and Hamada et al. are analogous art because they are from a similar technical difficulty, namely, making hypoallergenic natural rubbers. At the time of the invention, a person of ordinary skill in the art would have found it obvious to reduce the nitrogen content in a natural rubber to this level, as taught by Hamada et al., in the natural rubber of Cornish, and would have been motivated to do so because having a nitrogen content of less than or equal to 0.1% is good evidence that the rubber will not cause an allergic reaction (¶14).

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornish (US 5,580,942) in view of Hamada et al. (JP 2001-122906) as evidenced by Cornish et al. (Enc. Poly. Sci. and Tech., 2004, John Wiley and Sons) as applied to claim 1 above, and further in view of Tanaka et al. (US 6,355,407).

Cornish, Hamada et al. and Cornish et al. collectively teach the rubber of claim 1 as shown above.

Regarding claim 3, Cornish does not teach the natural rubber having a green strength of 0.1 to 3 MPa. However, Tanaka et al. teaches a deproteinized natural rubber having a green strength of at least 1 MPa (Col. 10, lines 66-67 and Col. 11, line 1). Cornish and Tanaka et al. are analogous art because they are from the same field of endeavor, namely, making hypoallergenic natural rubber. At the time of the invention, a person of ordinary skill in the art would have found it obvious to make the natural rubber, as taught by Cornish, have a green strength of at least 1 MPa, as taught by Tanaka et al., and would have been motivated to do so because a natural rubber having an elevated green strength possesses excellent processing characteristics in kneading and sheeting (Col. 11, lines 5-7).

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Regarding claims 4 and 5, Cornish does not teach combining a deproteinized natural rubber with another rubber, more specifically, conventional synthetic rubbers such as SBR, NBR, BR, IR, EPR, EPDM, or IIR. However, Tanaka et al. teaches that a low protein natural rubber can be combined with other common components, specifically, conventional synthetic rubbers, and used as a rubber composition (Col. 11, lines 44-48). At the time of the invention, a person of ordinary skill in the art would have found it obvious to combine the low protein natural rubber, as taught by Cornish, with conventional synthetic rubbers and use it in rubber compositions, as taught by Tanaka et al., and would have been motivated to do so because the low protein natural rubber has excellent processing characteristics (Col. 3, lines 61-62).

Regarding claim 6, Cornish does not teach using the natural rubber in a tire. However, Tanaka et al. teaches using a deproteinized natural rubber in a tire (Col. 11, lines 41-42). At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the low protein natural rubber, as taught by Cornish, in a tire, as taught by Tanaka et al., and would have been motivated to do so because the low protein natural rubber has excellent processing characteristics (Col. 3, lines 61-62).

### ***Response to Arguments***

Applicant's arguments filed July 1, 2008 have been fully considered but they are not persuasive.

Applicant argues that the Guayule and Hevea natural rubbers as they are found in nature are quite different from each other. While this seems to be the case, the claim is directed toward a final product with certain characteristics. It has not been shown that Guayule rubber (what is taught above) and *deproteinated* Hevea rubber (what is claimed) are different.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela C. Scott whose telephone number is (571) 270-3303. The examiner can normally be reached on Monday through Friday, 8:30am to 5:00pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./  
Supervisory Patent Examiner, Art Unit 1796  
14-Sep-08

/A. C. S./  
Examiner, Art Unit 1796